

ARKANSAS DEPARTMENT OF CORRECTION

REPLACEMENT OF CHILLER #2 AT ESTER UNIT

BARBARA ESTER UNIT
7500 CORRECTIONS CIRCLE
PINE BLUFF AR 71603

JANUARY 15, 2025

FOR CONSTRUCTION

DRAWING INDEX		
NO.	SHEET	TITLE
1	T1.1	TITLE SHEET
2	T1.2	SITE MAP - BARBARA ESTER UNIT
3	M1.1	MECHANICAL DEMOLITION PLAN
4	M1.2	MECHANICAL PLAN
5	E1.1	ELECTRICAL DEMOLITION PLAN
6	E1.2	ELECTRICAL PLAN

QUALITY CONTROL CERTIFICATION

A QUALITY CONTROL CHECK, INCLUDING THE APPROPRIATE COORDINATION AMONG DISCIPLINES, HAS BEEN MADE ON THIS PROJECT'S DOCUMENTS, AND CORRECTIONS RELATED TO THIS CHECK HAVE BEEN MADE. THE UNDERSIGNED PRINCIPAL/OWNER STATES THAT THESE PLANS AND SPECIFICATIONS AS SUBMITTED FOR REVIEW ARE, TO THE BEST OF HIS OR HER KNOWLEDGE AND ABILITY, COMPLETE AND READY FOR REVIEW.

SIGNED Glenn Lockeby DATE 01/15/2025
GLENN LOCKEBY, P.E. PRESIDENT

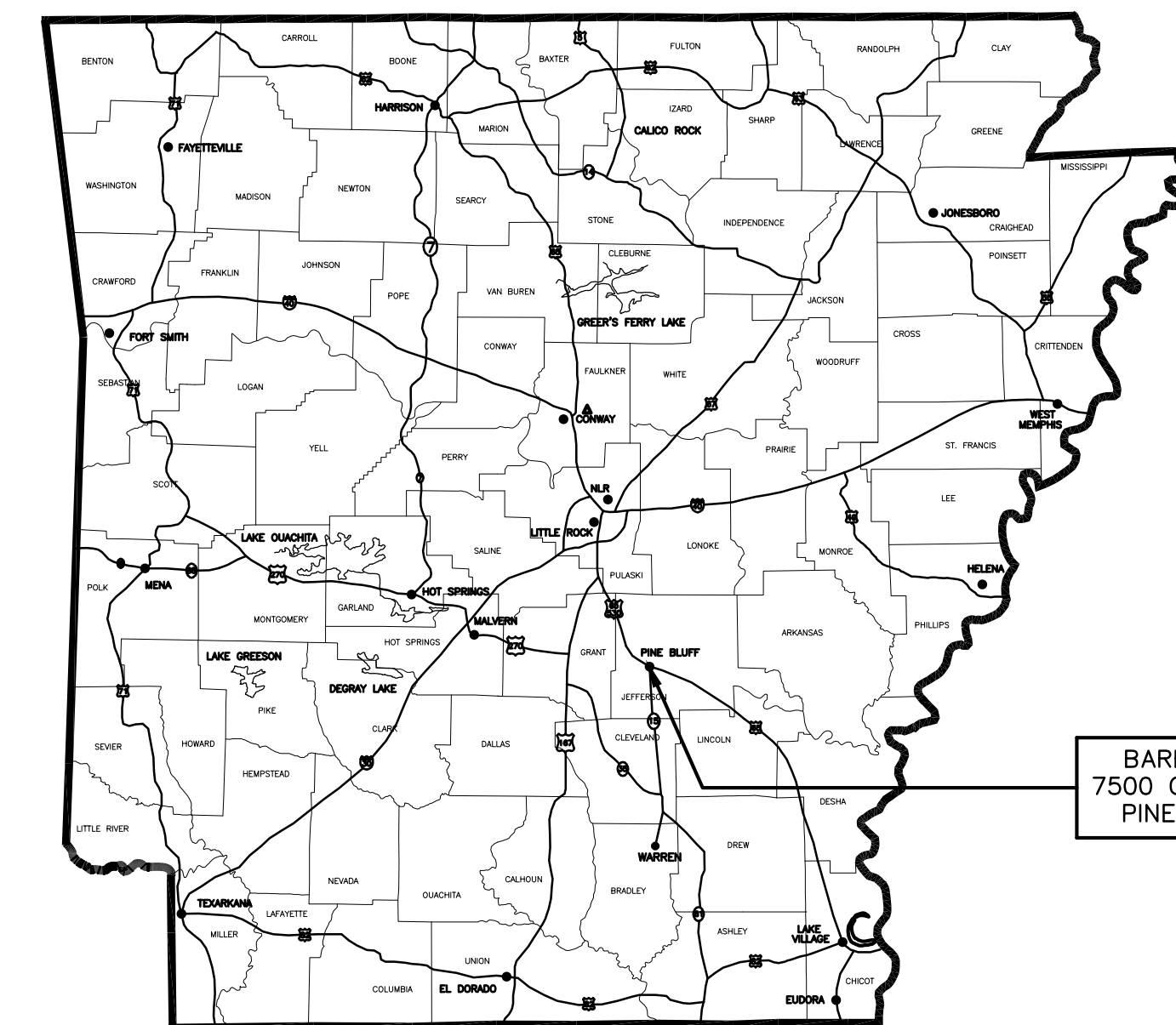
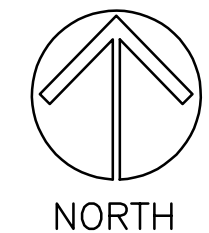
AFPC COMPLIANCE CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS AND SPECIFICATIONS HAVE BEEN PREPARED BY ME, OR UNDER MY SUPERVISION. I FURTHER CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THESE PLANS AND SPECIFICATIONS ARE AS REQUIRED BY LAW AND IN COMPLIANCE WITH THE ARKANSAS FIRE PREVENTION CODE FOR THE STATE OF ARKANSAS.

Glenn Lockeby GLENN LOCKEBY, P.E.
ARKANSAS REGISTRATION #7848

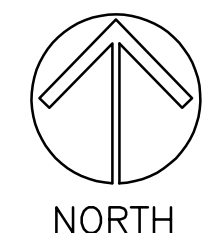


LOCAL SITE MAP - BARBARA ESTER UNIT



BARBARA ESTER UNIT
7500 CORRECTIONS CIRCLE
PINE BLUFF AR 71603

LOCATION MAP - BARBARA ESTER UNIT



REPLACEMENT OF CHILLER #2 AT ESTER UNIT
FOR CONSTRUCTION - LOCKEBY & ASSOCIATES, INC. - JANUARY 6, 2025

DBA PROJECT NUMBER: 4802502
LOCKEBY & ASSOCIATES PROJECT NUMBER: 24-33

LOCKEBY & ASSOCIATES, INC.

ARCHITECTS/ENGINEERS · PLANNING · MANAGEMENT
11300 N. RODNEY PARHAM, SUITE 310 LITTLE ROCK, AR 72212
PHONE: (501) 228-9800 FAX: (501) 228-9863

SHEET TITLE: TITLE SHEET
PROJECT TITLE: REPLACEMENT OF CHILLER AT ESTER UNIT
LOCATION: BARBARA ESTER UNIT 7500 CORRECTIONS CIRCLE PINE BLUFF

DATE: 1-15-2025
SHEET NO: T1.1
1 of 6

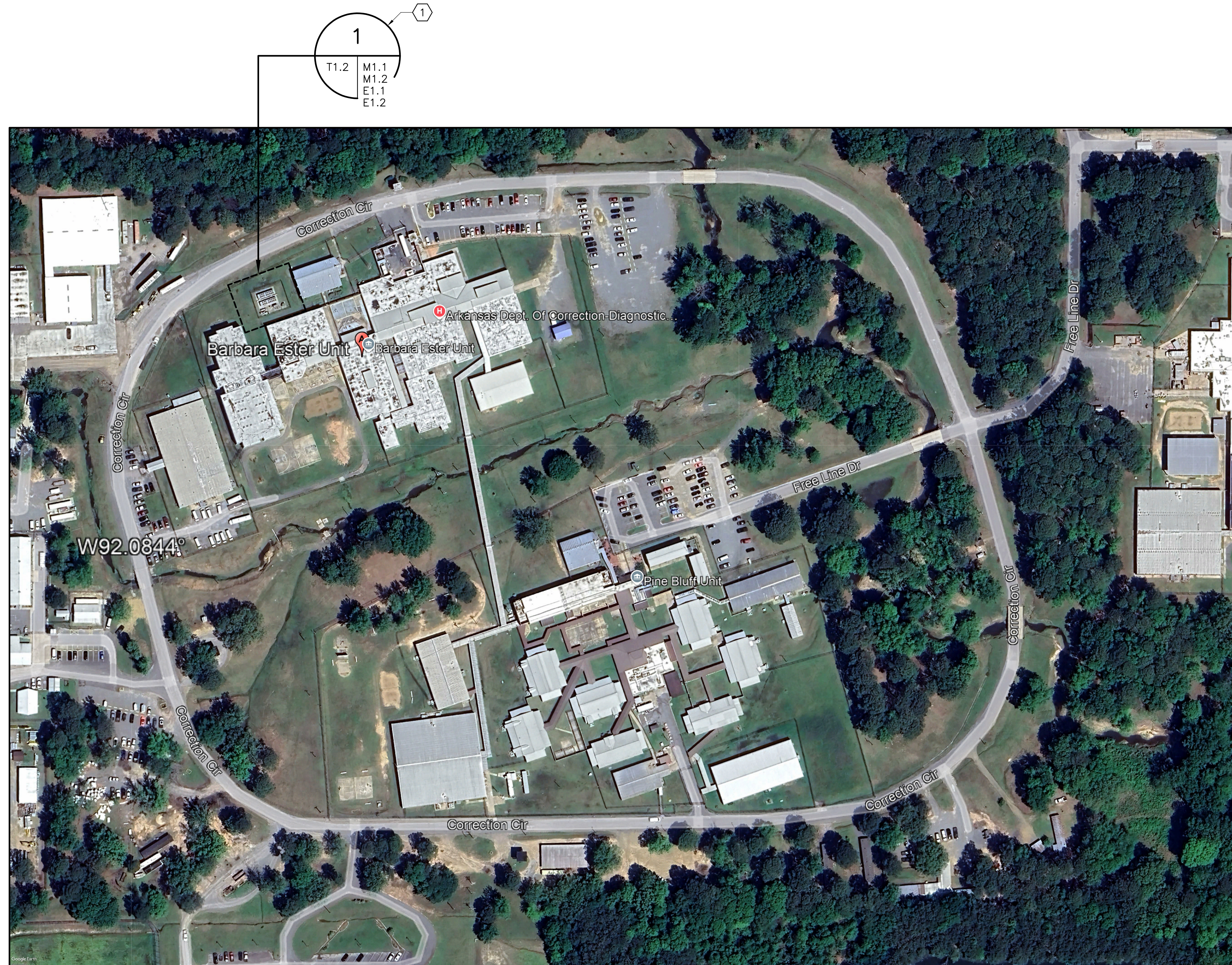


GENERAL NOTES (APPLY TO ALL SHEETS)

- A. PROVIDE ALL STARTUP SERVICES AS REQUIRED TO PLACE THE NEW EQUIPMENT IN OPERATION, INCLUDING TESTING, ADJUSTING, BALANCING, AS WELL AS ANY SITE VISITS AND STARTUP SERVICES REQUIRED BY MANUFACTURER'S REPRESENTATIVES, AND ANY OTHER SERVICES REQUIRED TO BRING THE EQUIPMENT INTO SERVICE IN COMPLETE COMPLIANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND/OR RECOMMENDATIONS. PROVIDE ALL SERVICES AS NEEDED TO MAINTAIN EQUIPMENT WARRANTIES AND TO COMPLY WITH ALL CODES.
- B. CONTRACTORS PERFORMING EQUIPMENT INSTALLATION MUST BE PROPERLY LICENSED BY THE APPROPRIATE LICENSING ENTITIES.
- C. ALL MECHANICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE ARKANSAS STATE MECHANICAL CODE.
- D. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL APPLICABLE STATE AND LOCAL CODES.
- E. THESE DRAWINGS ARE SCHEMATIC, AND MAY NOT INCLUDE ALL REQUIREMENTS NECESSARY FOR THE WORK TO BE PERFORMED. CONTRACTOR SHALL PROVIDE ALL MATERIAL, LABOR, EQUIPMENT, ETC. AS REQUIRED TO COMPLETE THE INTENT OF THIS DESIGN, WHETHER OR NOT ALL THE DETAILS OF SUCH WORK ARE SPECIFICALLY SHOWN ON THESE DRAWINGS.
- F. UNLESS NOTED OR SCHEDULED OTHERWISE, ALL ELECTRICAL CONDUITS EXPOSED TO VIEW SHALL BE SCHEDULE 40 GALVANIZED RIGID STEEL, ALL UNDERGROUND CONDUITS INSTALLED BY TRENCH & BACKFILL SHALL BE SCHEDULE 40 PVC WITH SCHEDULE 40 GALVANIZED RIGID STEEL ELBOWS. ALL UNDERGROUND CONDUITS INSTALLED BY BORING SHALL BE HDPE PIPING. ALL UNDERGROUND CONDUITS SHALL BE INSTALLED AT 36" MINIMUM BURIAL DEPTH.
- G. ALL CONDUCTORS PROVIDED ON THIS PROJECT SHALL BE TYPE THWN COPPER. NO ALUMINUM CONDUCTORS SHALL BE ALLOWED ON THIS PROJECT.
- H. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL CONDUCTORS INDICATED OR DESCRIBED BY NOTES ON THE ELECTRICAL DRAWINGS, POWER RISER DIAGRAMS, OR DETAILS SHALL BE NEW CONDUCTORS. DO NOT RE-USE ANY EXISTING CONDUCTORS UNLESS SPECIFICALLY NOTED TO DO SO.
- I. DO NOT SCALE DRAWINGS FOR LENGTHS OF CONDUIT, CONDUCTORS, OR ANY OTHER MATERIALS TO BE PROVIDED IN THIS CONTRACT. CONTRACTOR SHALL MAKE ALL HIS OWN MEASUREMENTS AND SHALL PROVIDE ALL MATERIALS AS REQUIRED FOR A COMPLETE AND OPERATIVE INSTALLATION.
- J. THE WORK OF EACH TRADE SHALL BE ACCOMPLISHED BY WORKERS SKILLED IN THAT TRADE, WITH APPROPRIATE LICENSES, CERTIFICATIONS, KNOWLEDGE AND EXPERIENCE AS REQUIRED TO RESULT IN A COMPLETED JOB THAT IS IN COMPLETE ACCORDANCE WITH THE REASONABLE EXPECTATIONS OF THE DESIGN PROFESSIONAL, THE OWNER, AND ALL OTHER AUTHORITIES HAVING JURISDICTION ON THIS PROJECT.

KEYED NOTES

- ① THE WORK OF THIS PROJECT IS CONFINED WITHIN THIS MECHANICAL COURTYARD. SEE THE DRAWINGS INDICATED WITHIN THE SYMBOL FOR DETAILS OF THE DEMOLITION AND CONSTRUCTION WORK.



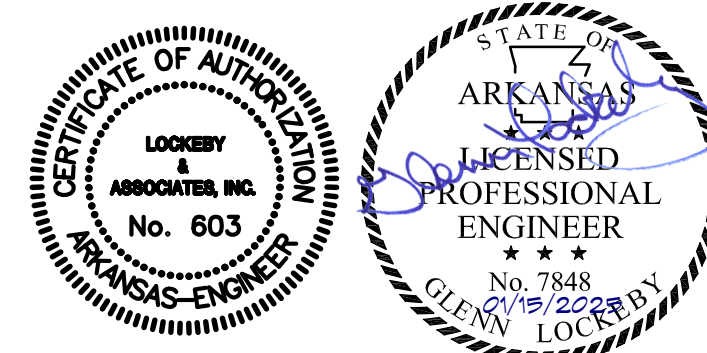
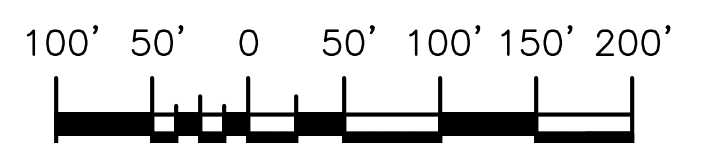
SITE MAP – BARBARA ESTER UNIT

SCALE: 1" = 100'



GRAPHIC SCALE

SCALE: 1" = 100'



LOCKEY & ASSOCIATES, INC.

ARCHITECTS/ENGINEERS · PLANNING · MANAGEMENT
 11300 N. RODNEY PARHAM, SUITE 310 LITTLE ROCK, AR 72212
 PHONE: (501) 228-9800 FAX: (501) 228-9863

SHEET TITLE: SITE MAP – BARBARA ESTER UNIT
 PROJECT TITLE: REPLACEMENT OF CHILLER AT ESTER UNIT
 LOCATION: BARBARA ESTER UNIT 7500 CORRECTIONS CIRCLE PINE BLUFF

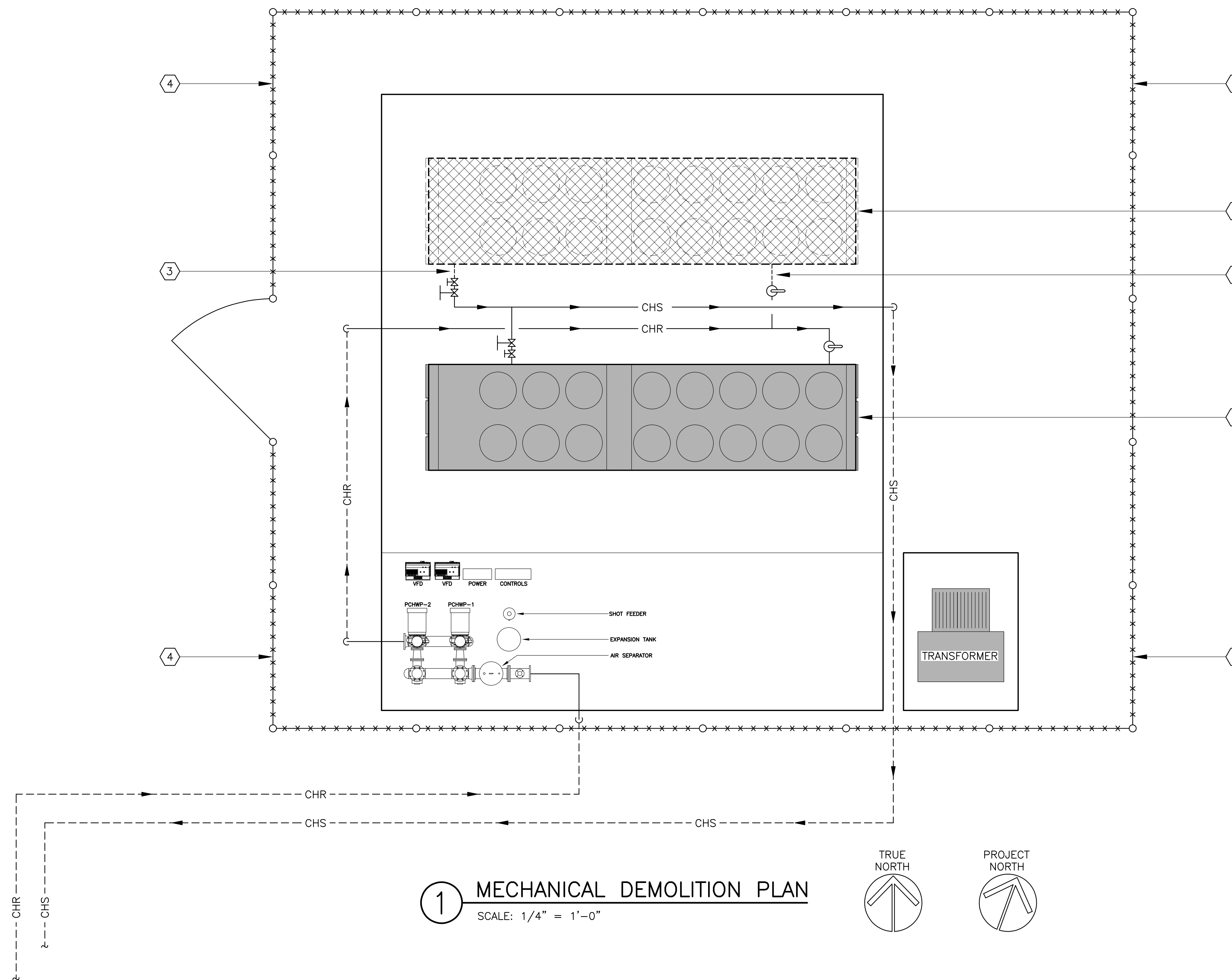
DATE: 1-15-2025
 SHEET NO: T1.2
 2 OF 6

GENERAL NOTES

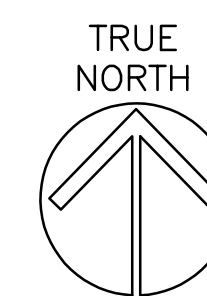
- A. THE "GENERAL NOTES" LISTED ON SHEET T1.2 SHALL APPLY TO THIS SHEET.

KEYED NOTES

- ① EXISTING CHILLER #1 SHALL REMAIN.
- ② DEMOLISH EXISTING CHILLER #2 IN ITS ENTIRETY.
- ③ DEMOLISH THE EXISTING CHILLED WATER PIPING BETWEEN CHILLER #2 AND THE VALVE.
- ④ THIS EXISTING CHAIN LINK FENCING SHALL REMAIN. PROTECT THE FENCE FROM DAMAGE. ALL EXISTING EQUIPMENT TO BE DEMOLISHED SHALL BE REMOVED BY OVERHEAD CRANE. ALL NEW EQUIPMENT AND MATERIALS REQUIRED FOR THE PROJECT WILL BE CARRIED INTO THE FENCED AREA OR DELIVERED INTO THE AREA BY OVERHEAD CRANE.

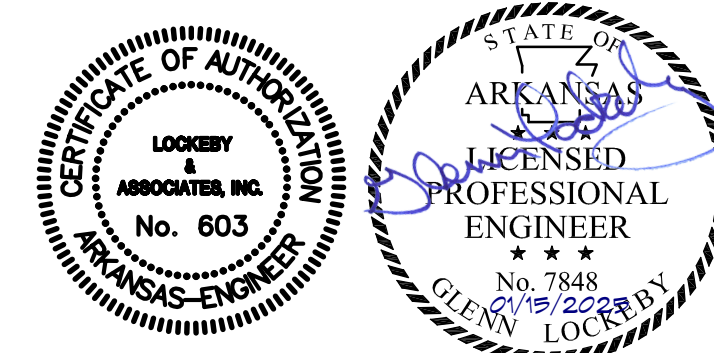


1 MECHANICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



GRAPHIC SCALE

SCALE: 1/4" = 1'-0"



LOCKEY & ASSOCIATES, INC.

ARCHITECTS/ENGINEERS · PLANNING · MANAGEMENT
11300 N. RODNEY PARHAM, SUITE 310 LITTLE ROCK, AR 72212
PHONE: (501) 228-9800 FAX: (501) 228-9863

SHEET TITLE: MECHANICAL DEMOLITION PLAN
PROJECT TITLE: REPLACEMENT OF CHILLER AT ESTER UNIT
LOCATION: BARBARA ESTER UNIT 7500 CORRECTIONS CIRCLE PINE BLUFF

DATE: 1-15-2025
SHEET NO: **M1.1**
3 of 6

GENERAL NOTES

- A. THE "GENERAL NOTES" LISTED ON SHEET T1.2 SHALL APPLY TO THIS SHEET.

KEYED NOTES

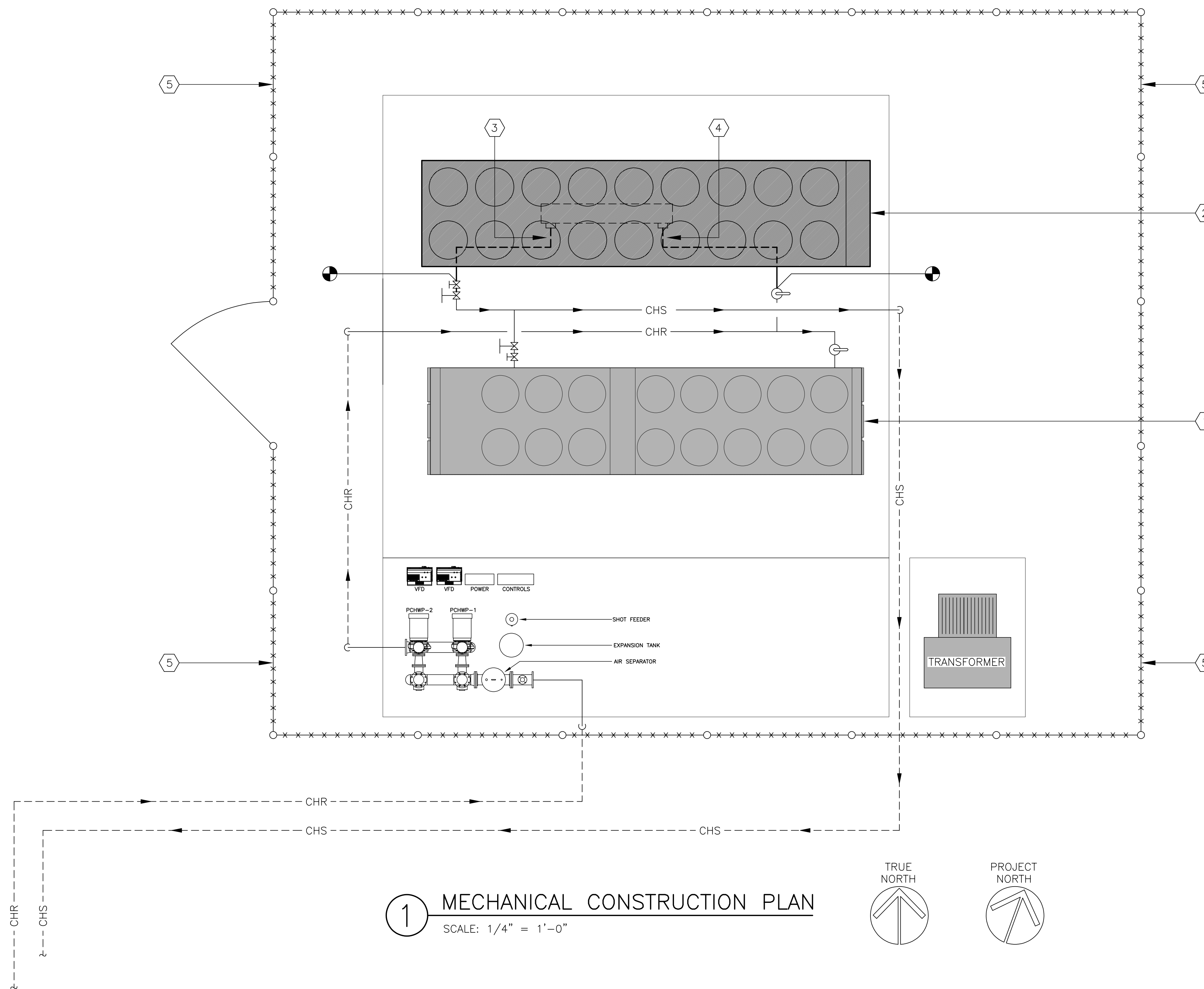
- ① EXISTING CHILLER #1.
 ② NEW CHILLER "ACC-2".
 ③ EXTEND AN 8" CHILLED WATER SUPPLY LINE INTO THE CHILLER ENCLOSURE AND CONNECT TO THE EVAPORATOR OUTLET AS SHOWN. PROVIDE 2" THICK RIGID FIBERGLASS INSULATION AND ALUMINUM JACKETING AS SPECIFIED ON PIPING. PROVIDE HEAT TRACE ALONG ENTIRE LENGTH OF NEW PIPING.
 ④ EXTEND AN 8" CHILLED WATER RETURN LINE INTO THE CHILLER ENCLOSURE AND CONNECT TO THE EVAPORATOR INLET AS SHOWN. PROVIDE 2" THICK RIGID FIBERGLASS INSULATION AND ALUMINUM JACKETING AS SPECIFIED ON PIPING. PROVIDE HEAT TRACE ALONG ENTIRE LENGTH OF NEW PIPING.
 ⑤ THIS EXISTING CHAIN LINK FENCING SHALL REMAIN. PROTECT THE FENCE FROM DAMAGE. ALL EXISTING EQUIPMENT TO BE DEMOLISHED SHALL BE REMOVED BY OVERHEAD CRANE. ALL NEW EQUIPMENT AND MATERIALS REQUIRED FOR THE PROJECT WILL BE CARRIED INTO THE FENCED AREA OR DELIVERED INTO THE AREA BY OVERHEAD CRANE.

SEQUENCE OF OPERATION

THE "SEQUENCE OF OPERATION" FOR THE NEW CHILLER SHALL BE IDENTICAL TO THE "SEQUENCE OF OPERATION" FOR THE EXISTING CHILLER. ALL EXISTING TEMPERATURE SENSORS, DIFFERENTIAL PRESSURE SWITCHES, ETC. SHALL BE RE-USED.

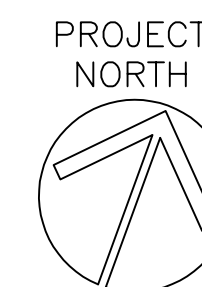
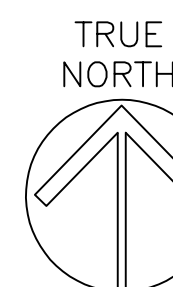
PIPING SYMBOLS

- CHS — EXISTING CHILLED WATER SUPPLY
 — CHR — EXISTING CHILLED WATER RETURN
 — CHS — NEW CHILLED WATER SUPPLY
 — CHR — NEW CHILLED WATER RETURN
 ——— SOLID LINES INDICATE PIPING ABOVE GRADE AND EXPOSED TO VIEW
 - - - - - DASHED LINES INDICATE PIPING BELOW GRADE OR OTHERWISE HIDDEN FROM VIEW
 ● POINT OF CONNECTION



① MECHANICAL CONSTRUCTION PLAN

SCALE: 1/4" = 1'-0"



AIR-COOLED CHILLER

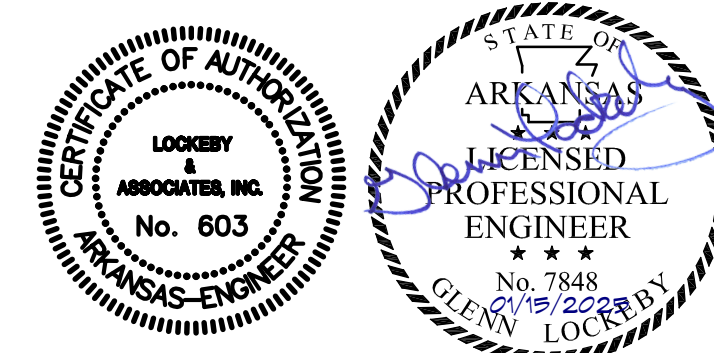
MARK	MFR.	MODEL	DESIGN AMBIENT	CAPACITY AT DESIGN				FULL LOAD	IPLV	REFRIGERANT	ELECTRICAL	MCA	RECOMMENDED FUSE SIZE	MOP	NOTES		
ACC-2	DAIKIN	WV016	105°F	TONS	EW	LWT	GPM	EVAP	PD	EER	(EER)	R513A	460/3/60	601	700	800	1,2
				243	56°F	42°F	415.4	10.9	FT	7.65	17.15						

1. OR APPROVED EQUAL IN "TRANE", "CARRIER", OR OTHER ENGINEER-APPROVED EQUAL. THE CHILLER SCHEDULED IS TO SERVE AS THE "BASIS OF DESIGN". CHILLERS MANUFACTURED BY OTHER MANUFACTURERS WILL BE CONSIDERED PROVIDED THEY MEET OR EXCEED THE SPECIFICATIONS AND THE CRITERIA SCHEDULED IN THIS SCHEDULE. CHILLERS THAT DO NOT MEET THE SPECIFIED OR SCHEDULED FEATURES AND CRITERIA WILL NOT BE ACCEPTED. THE FEATURES AND PERFORMANCE DATA LISTED ON THIS SCHEDULE AND WITHIN THE PROJECT SPECIFICATIONS ARE ABSOLUTE MINIMUMS.

2. THE CHILLER SHALL BE PROVIDED WITH THE FOLLOWING:
 a. TWO REFRIGERATION CIRCUITS, WITH ONE SCREW COMPRESSOR PER CIRCUIT;
 b. STANDARD OPERATION FOR 40 TO 50 DEGREE FAHRENHEIT LEAVING WATER TEMPERATURE;
 c. MicroChannel CONDENSER COIL FINIS;
 d. ACROSS THE LINE COMPRESSOR STARTERS;
 e. SINGLE POINT DISCONNECT SWITCH AND CIRCUIT PROTECTION;
 f. PHASE & UNDER/OVER VOLTAGE PROTECTION;
 g. BACNET MS/TP COMMUNICATION MODULE;
 h. FACTORY INSTALLED STRAINER AND THERMAL DISPERSION TYPE FLOW SWITCH;
 i. SINGLE LAYER INSULATION TO SUCTION AT EACH COMPRESSOR;
 j. ELECTRONIC EXPANSION VALVE;
 k. LOW AMBIENT OPERATION TO 0°F (ZERO DEGREES FAHRENHEIT);
 l. DISCHARGE AND LIQUID VALVES WITH REPLACEABLE FILTER DRYER;
 m. SUCTION SHUTOFF VALVES;
 n. STARTUP BY FACTORY TECHNICIAN;
 o. ONE-YEAR PARTS, LABOR AND REFRIGERANT WARRANTY;
 p. FIVE-YEAR COMPRESSOR PARTS WARRANTY;
 q. RIS ISOLATOR KIT, FIELD INSTALLED BY CONTRACTOR.
 r. FULL HEIGHT LOUVERED PANELS PROTECTING CONDENSER COILS & BASE FRAME AREA.

GRAPHIC SCALE

SCALE: 1/4" = 1'-0"

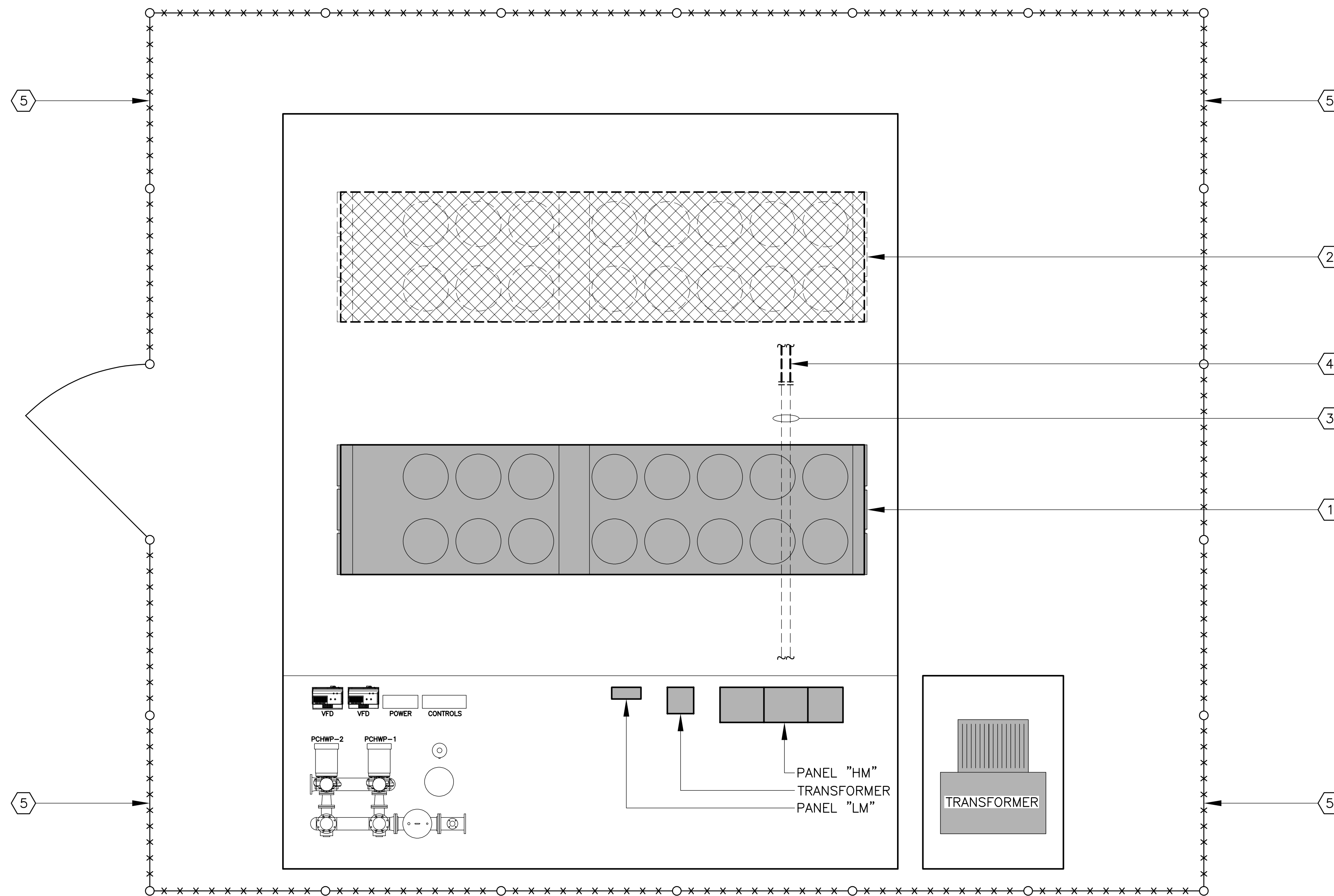


LOCKEY & ASSOCIATES, INC.

ARCHITECTS/ENGINEERS · PLANNING · MANAGEMENT
 11300 N. RODNEY PARHAM, SUITE 310 LITTLE ROCK, AR 72212
 PHONE: (501) 228-9800 FAX: (501) 228-9863

SHEET TITLE: MECHANICAL CONSTRUCTION PLAN
 PROJECT TITLE: REPLACEMENT OF CHILLER AT ESTER UNIT
 LOCATION: BARBARA ESTER UNIT 7500 CORRECTIONS CIRCLE PINE BLUFF

DATE: 1-15-2025
 SHEET NO: M1.2
 4 OF 6



GENERAL NOTES

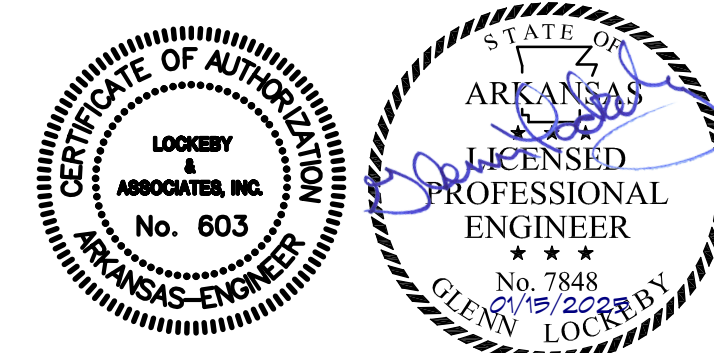
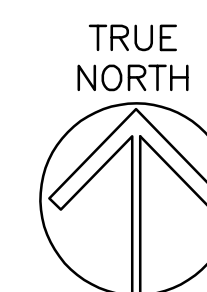
A. THE "GENERAL NOTES" LISTED ON SHEET T1.2 SHALL APPLY TO THIS SHEET.

KEYED NOTES

- ① EXISTING CHILLER #1 SHALL REMAIN.
- ② EXISTING CHILLER #2 SHALL BE DEMOLISHED.
- ③ REMOVE AND DISPOSE OF THE CONDUCTORS OF THE TWO (2) CONDUITS COMPRISING THE POWER CIRCUIT FROM PANEL "HM" TO CHILLER #2. EACH OF THESE TWO (2) CIRCUITS IS A 3" C, 3#500kcmil, 1#1/0 (G) CIRCUIT.
- ④ BREAK OUT CONCRETE AND RE-ROUTE/EXTEND THE EXISTING CONDUITS AS REQUIRED FOR NEW CHILLER "ACC-2". SEE THE "ELECTRICAL CONSTRUCTION PLAN" FOR FURTHER DETAILS.
- ⑤ THIS EXISTING CHAIN LINK FENCING SHALL REMAIN. PROTECT THE FENCE FROM DAMAGE. ALL EXISTING EQUIPMENT TO BE DEMOLISHED SHALL BE REMOVED BY OVERHEAD CRANE. ALL NEW EQUIPMENT AND MATERIALS REQUIRED FOR THE PROJECT WILL BE CARRIED INTO THE FENCED AREA OR DELIVERED INTO THE AREA BY OVERHEAD CRANE.

1 ELECTRICAL DEMOLITION PLAN

SCALE: 1/4" = 1'-0"



LOCKEBY & ASSOCIATES, INC.

ARCHITECTS/ENGINEERS · PLANNING · MANAGEMENT
 11300 N. RODNEY PARHAM, SUITE 310 LITTLE ROCK, AR 72212
 PHONE: (501) 228-9800 FAX: (501) 228-9863

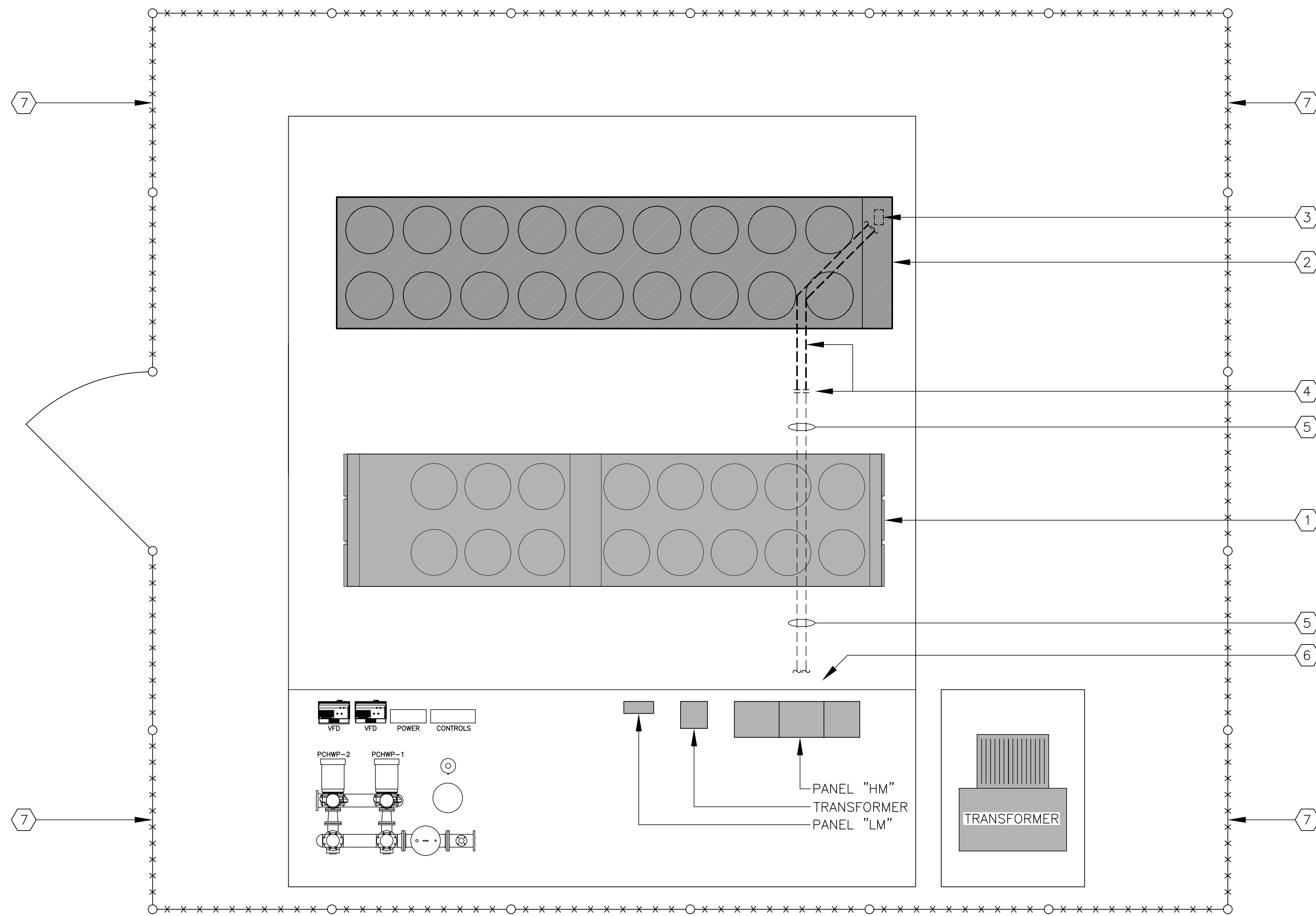
GRAPHIC SCALE

SCALE: 1/4" = 1'-0"



SHEET TITLE: ELECTRICAL DEMOLITION PLAN
 PROJECT TITLE: REPLACEMENT OF CHILLER AT ESTER UNIT
 LOCATION: BARBARA ESTER UNIT 7500 CORRECTIONS CIRCLE PINE BLUFF

DATE: 1-15-2025
 SHEET NO: E1.1
 5 OF 6



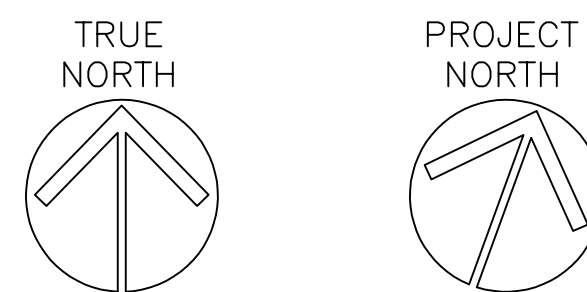
GENERAL NOTES

A. THE "GENERAL NOTES" LISTED ON SHEET T1.2 SHALL APPLY TO THIS SHEET.

KEYED NOTES

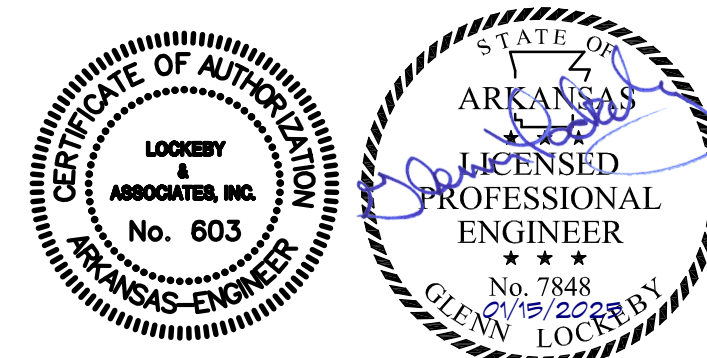
- ① EXISTING CHILLER #1 SHALL REMAIN.
- ② NEW CHILLER "ACC-2".
- ③ APPROXIMATE POWER ENTRY LOCATION FOR NEW CHILLER "ACC-2".
- ④ BREAK OUT CONCRETE AND RE-ROUTE/EXTEND THE TWO (2) EXISTING UNDERGROUND 3" CONDUITS AS REQUIRED TO COME UP WITHIN THE "POWER ENTRY LOCATION" INDICATED BY KEYED NOTE #3.
- ⑤ PROVIDE NEW CONDUCTORS WITHIN THESE TWO (2) EXISTING 3" CONDUITS COMPRISING THE POWER CIRCUIT FROM PANEL "HM" TO CHILLER "ACC-2". EACH OF THESE TWO (2) CIRCUITS SHALL BE 3#400kcmil, 1#1/0 (G) CIRCUIT.
- ⑥ RE-CONNECT THIS CIRCUIT TO THE EXISTING 1000A3P SQUARE D PJ-1000 PowerPact CIRCUIT BREAKER WITHIN PANEL "HM". ADJUST THE TRIP SETTING OF THIS CIRCUIT BREAKER TO 700 AMPS.
- ⑦ THIS EXISTING CHAIN LINK FENCING SHALL REMAIN. PROTECT THE FENCE FROM DAMAGE. ALL EXISTING EQUIPMENT TO BE DEMOLISHED SHALL BE REMOVED BY OVERHEAD CRANE. ALL NEW EQUIPMENT AND MATERIALS REQUIRED FOR THE PROJECT WILL BE CARRIED INTO THE FENCED AREA OR DELIVERED INTO THE AREA BY OVERHEAD CRANE.

1 ELECTRICAL CONSTRUCTION PLAN
SCALE: 1/4" = 1'-0"



GRAPHIC SCALE

SCALE: 1/4" = 1'-0"



LOCKEY & ASSOCIATES, INC.

ARCHITECTS/ENGINEERS · PLANNING · MANAGEMENT
11300 N. RODNEY PARHAM, SUITE 310 LITTLE ROCK, AR 72212
PHONE: (501) 228-9800 FAX: (501) 228-9863

SHEET TITLE: ELECTRICAL CONSTRUCTION PLAN
PROJECT TITLE: REPLACEMENT OF CHILLER AT ESTER UNIT
LOCATION: BARBARA ESTER UNIT 7500 CORRECTIONS CIRCLE PINE BLUFF

DATE: 1-15-2025
SHEET NO: **E1.2**
6 OF 6